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"Animal-Style Art," and Special Finds at Iron Age Settlements in Southeastern Kazakhstan: Chronology, Trade, and Networks during the Iron Age

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Abstract: Two Iron Age settlements, Tuzusai and Taldy Bulak 2 (ca. 500 BC to 1 CE), located in southeastern Kazakhstan on the Talgar alluvial fan north of the Tian Shan range, have yielded a small collection of bone, antler/horn, bronze, and stone artifacts with an affinity to the nomadic art of the first millennium BC. Both settlements date within the period of late Saka culture. Two pieces have decorative ornamentations with zoomorphic imagery: a small carved fragment with carved images of a wing and an ear and a perforated bone disk with the carving of three birds' heads. The other artifacts include objects associated with Saka weaponry or nomadic economy, such as two horn psalias (cheek pieces) and a bronze amulet. A carnelian bead will also be described as an imported object. These special finds were found on the occupation floors of mud brick houses and in the pit houses of settlements, not in grave or burial contexts. The objects were placed in a stratigraphic sequence in the settlement sites. The method for placing these objects within the chronological framework of "animal-style art" is through comparisons with similar objects found throughout Eurasia—a method used in Soviet and post-Soviet archaeology. The results show that the functional and stylistic elements of the six objects indicate that the Talgar settlements were part of a larger world-system of trade and communication along the early Silk Route(s).

Keywords: zoomorphic art; Saka nomadic tradition; horse and weaponry gear; etched carnelian beads; Iron Age agropastoral settlements; world-systems analysis

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1. Introduction

The discussion of zoomorphic art is usually confined to objects or artifacts where animals are depicted. In this essay, we consider the chronological placement of zoomorphic art and artifacts that may signify the presence of long-distance trade and networks at two Iron Age settlements in the Talgar region of southeastern Kazakhstan at the edge of the northern Tian Shan Range (Chang 2018). Tuzusai (ca. 400 BC to 1 CE) and Taldy Bulak 2 (ca. 740 BC to 40 BC) were excavated between 1994 and 2018 by the Kazakh American Archaeological Expedition (KAAE). These two settlement sites have six to eight stratigraphic layers, architectural features such as trash and storage pits, pit houses and mudbrick rectangular houses, fireplaces, and midden deposits. In addition to the architectural features, there is faunal evidence of the herding of sheep, goats, cattle, and horses, as well as the remains of dogs, donkeys, camels, and a small number of wild animals. The Iron Age inhabitants also raised crops, such as wheat, barley, and the two forms of millet. The dual agropastoral economy of the Talgar settlement sites is important, showing that the nomadic confederacies of the Semirech'ye Region of southeastern Kazakhstan lived in sedentary and semi-sedentary villages and hamlets (Chang 2018). The finds described here were all found in occupational contexts, such as house floors, ditches, and post-holes. The finds,

especially the two objects with zoomorphic images (a bone plaque and a bone disk), are definite but meager evidence of the presence of animal-style artifacts. For this time period, objects fashioned of gold and silver are usually found in the elite graves of aristocratic members of the Saka society. At the Talgar excavations, we discovered a small collection of bone, horn, and stone artifacts, which were labelled as special finds. We discuss in detail five of these special finds: (1) an unfinished etched white bead (similar to etched carnelian beads); (2) a fragment of a bone plate or plaque with carved images of a wing of the Scytho-Siberian style; (3) a bone disk depicting three carved birds' heads: (4) two cheek pieces fashioned from horn, known as psalia; and (5) a small bronze wheel. In addition, we provide a summary of the chronological placement of these artifacts in terms of both stratigraphic position at the two settlements and comparative analogies to similar objects found across the Eurasian steppe. The presence of "animal-style" artifacts at the Iron Age settlement of Tuzusai demonstrates that zoomorphic imagery was part of the inventory of the ordinary Saka people living in sedentary or semi-sedentary agropastoral settlements, thus tying them to the same aesthetic traditions found at aristocratic elite burials. This collection of special finds also indicates that the Talgar Iron Age settlements were part of long-distance trade networks tying Central Asia to South Asia, the Pamirs, Northwest China, and Siberia. Yet the Iron Age farmer-herders of Talgar appear to be at the periphery of a larger Iron Age world-system during the first millennium BC (Beaujard 2010).

1.1. Theoretical Arguments

We test the hypothesis that evidence for zoomorphic art found at semi-sedentary Iron Age settlements of the Talgar region fits into a larger narrative about the long-distance trade and religious, political, and ideological ties within the Iron Age nomadic confederacies and early states. The term "animal-style art", or zoomorphic art, was coined by Rostovzeff (Rostovzeff 1967) and describes an historical art style consisting of the depiction of fantastical beasts, predator–prey scenes, and zoomorphic carvings that are often embossed in precious metals such as gold, silver and bronze and frequently found in burial kurgans throughout Eurasia. How did the semi-sedentary agropastoral communities of Talgar align themselves with the aristocratic traditions of nomadic elites? In order to answer this question, we review the archaeological context of these special finds and their possible stylistic and/or economic ties to animal-style art found in other areas of Eurasia. For the most part, art historians and archaeologists examining the zoomorphic art style of the Iron Age have only indirectly been addressing art style as another aspect of commodity trading routes or as evidence for the existence of an Iron Age world-system centered in East Asia (Beaujard 2010, p. 8; Frank and Thompson 2005). A detailed discussion of the Iron Age world-system suggests that the spread of an art tradition is an important aspect of the spheres of interaction between China, Mongolia, the Near East, and South Asia. The Eurasian Iron Age world-systems were based on core–periphery economic ties. Places such as China and the Central Asian desert oases of the Kingdoms of Bactria served as the political and economic centers, while outlying places such as the nomadic confederacies of the Scythians, Saka, Wusun, and others (Beaujard 2010, pp. 9–10) were part of the periphery or semi-periphery of agricultural kingdoms, states, and empires. Animal-style art also reflects the globalizing influence of the Eurasian world-system. One reason for why an aesthetic system of depicting animals across the Eurasian steppe has been overlooked as a data source for world-systems analysis (WSA) is that the original studies were art historical in content. First, a stylistic art tradition that features beasts, fighting scenes, and fantastical combinations of griffins and dragons lends itself to religious and ideological interpretations. Second, the mythical transformations of beasts, an art style found in the first millennia BC, is often traced to earlier belief systems, such as shamanism or Mesopotamian religion. The animal-style art of the Eurasian steppe has similar elements to those found in Assyrian imagery: deer, horses, trees, and humans often in fighting or hunting scenes (Albenda 2008). Third, the gold plaques, jewelry, and iron weapons found in the tumuli of elite individuals in nomadic kurgan burials from Eastern Europe to Mongolia and China in the

first millennium BC speak directly to steppe hierarchy clan leaders, warriors, and shamans, not ordinary folk. Portable art, such as the buckles, plaques, and jewelry found in the elite burials at Berel and Eleke Sazy in the Altai region of Kazakhstan, has resulted in detailed studies of source materials, such as gold and other precious metals, and detailed analyses of craftsmanship (Amir and Martinon-Torres 2021). Yet, little is known about the foundation of nomadic society during the Iron Age. Did the common people also engage in the production, crafting, and trading of 'animal-style' art? By assessing these objects through chronological and geographic comparisons to other such objects found in burial contexts across Eurasia, we may be able to describe aspects of the Eurasian world-system during the Iron Age. We then also establish an analytical method for placing our collection of special finds at Talgar in a larger pan-regional framework of trade and outside influence. These networks or pathways establish spheres of interaction between core and periphery areas, as well as economic pathways along the early Silk Route(s).

Nikolai Kradin (2015) employs world-systems analysis (WSA) to discuss in detail the relations that nomadic groups such as the Hsiung-nu, Mongols, and others had with the outside world. We build upon Khazanov's (1994) thesis about the Eurasian nomadic polities requiring relations with the outside world, not merely for trade in commodities such as grain and silk or as predatory empires, but for maintaining the dynamic force of innovation and resilience within their own societies. Therefore, it seems logical that nomadic polities were at the forefront of adopting outside influences and transforming them into a new synthesis. Zoomorphic art could be particularly symbolic of both the idiosyncratic and syncretic visual vocabularies of the steppe (Andreeva 2018). The Talgar settlements are Iron Age hamlets or villages that were year-round settlements. The architecture at the settlements is simple. The artifact inventories of handmade household ceramics (bowls, jars, plates, cooking vessels, and storage vessels), copper, iron, and bronze fragments, and bone tools (scrapers, awls, and a rare find of an arrowpoint) suggest that these were the occupation places of common folk such as farmers and herders, not the elite buried in the nearby kurgans (Chang 2018). Thus, how did the Talgar folk of the first millennia BC obtain objects with zoomorphic imagery or exotic items such as etched stone beads or bronze wheels? Here, we must develop our own time–space systematics, that is, to place our finds in a geographical location and in a chronological sequence.

1.2. Study Area

The Talgar alluvial fan is found to the north of the Zailiisky Alatau group of the western Tian Shan Range. The Talgar River originates in the upper regions of Peak Talgar (ca. 5000 m asl) and is fed by seasonal glacial melt and rainfall (see Figure 1, locator map).

As the river opens onto the alluvial deposits, there is a fan of stream channels branching north toward the desert steppe. This alluvial fan, along with at least 14 fans along the base of the Zailiisky Alatau range, forms a band of rich arable steppe land on the south side of the Ili River Basin. Tuzusai, a large Iron Age settlement dating from 590 BC to 75 CE (the entire range of calibrated radiometric dates), is about 8 to 10 hectares in size. Taldy Bulak 2 is smaller in size (less than 2 hectares) and has radiometric dates indicating activity from 775 BC to 40 BC (see Figure 2, Google Maps image of the Talgar fan). Both settlements have six to eight occupation horizons, and a description of the finds is presented in Table 1.

Figure 1. Map of Kazakhstan. Talgar is 25 km east of Almaty.

Figure 2. Google Maps image showing the Talgar fan and the location of the two settlements: Tuzusai and Taldy Bulak 2.

Table 1. List of special finds, context and feature association, and measurements.

Artifact	Description	Site Excavation, Context	Provenience	Measurement
Etched stone bead	Small tubular bead with geometric etching, drilled on both ends, drill hole was not completed	Tuzusai 2008 excavations, house 4, floor level 4, phase 1	Quadrat DZ-3, level 13, 290 cm below datum (1.3 m below surface)	1.9 cm in length, 0.7 cm in width
"Animal-style" bone plate/plaque fragment	Long bone fragment carved on outer convex side with wing and ear image	Tuzusai 2011 excavations Pit house 2B, upper occupational floor, phase 2	Quadrat N-2, level 7, 210 cm below datum (50 cm below surface)	3.8 cm × 2.9 cm × 0.83 cm
Two horn cheek pieces with drilled holes (psalias, or horse bridle pieces)	Antler/horn pieces with drilled holes, first piece has two holes, second piece has two holes, traces of two additional holes at base are most likely decorative elements	Tuzusai 2013 excavations Post-hole (Context 56) House 6, phase 1	Quadrat V-15, level 15, 290 cm below datum (1.3 m below surface)	One is 10 cm in length, the other is 11.5 cm in length
Bone disk with three birds' heads with beaks	Bone disk has a center hole surrounded by carved birds' heads, each head has one eye and a long curved beak	Tuzusai 2010 excavations Outside edge of pit house 6 on the southern edge, phase 1	Quadrat E-9, level 13, 283 cm below datum (1.2 m below surface)	3.7 cm in diameter, max. thickness 0.5 cm. Center hole is 0.8 cm in diameter
Bronze wheel	Circular disk with eight perforations, five holes not completely finished	Taldy Bulak 2 2005 excavations Ditch (feature 18), stratum 8, early occupation phase	Quadrat V-3, stratum 8, 207 cm below datum (60 cm below surface)	2.4 cm in diameter, 0.4 cm in thickness, center hole is 0.24 cm in diameter

In Figure 2, we show the locations of the two settlements where the special finds discussed in this article were obtained. Each settlement is an Iron Age agropastoral settlement. Tuzusai is about 7 km from the modern town of Talgar, and Taldy Bulak is about 5 km from Talgar.

1.3. The Finds

Each quadrat is a 2 m × 2 m unit. The two sites were dug at arbitrary levels that were converted to natural strata. For Tuzusai, the stratigraphic designations of stratum 1–3 belong to phase 1 (400–200 BC), and stratum 4–6 is designated as phase 2 (100 BC–1 CE). For Taldy Bulak 2, the earliest phase (400–350 BC) corresponds to phase 1 at Tuzusai (400–200 BC) (Chang 2018, p. 34).

2. Results

In this section, each of the five objects described here are compared to similar objects/items found at known archaeological sites, usually from burial or grave inventories. The descriptions include comparisons to a wide range of similar objects and their chronological placement. We draw historical and archaeological interpretations from the results of our comparative analyses.

2.1. Etched Stone Bead (Bleached Carnelian Bead) (Figure 3)

This stone bead has a center hole drilled at each end, but the drill hole was never completed. The white stone material has been described as bleached carnelian, usually traced to its original production site in the Indus Valley (Beck 1930; Kenoyer 2017; Zhao 2014). Recently, Brunet (2009) suggested that there were separate centers of carnelian production in Armenia and the United Arab Emirates as far back as the Bronze Age. Zhao (2014, p. 177) found carnelian beads in Xinjiang with geometric designs and dots that he labels as type B, quite similar to this bead. Specific examples were found from grave M69 at Lijiasan Cemetery, Jiangechuan.

Figure 3. Etched stone bead from Tuzusai.

We have decided to exercise caution when interpreting the etched white stone that resembles the Indus Valley carnelian beads. If the occupants of Talgar or their craftsmen did produce a copy, it still suggests that the Talgar IA people had some contact with Indus Valley trade items (see Figure 4). Additionally, the fact that etched beads also appear in Northwest China and date to the first millennium BC allows us to posit that a network existed from the Indus Valley to the Pamirs and further east to Semirech'ye (Talgar region) and then Xinjiang (see Figure 4). It is also important to note that the Soviet literature shows that Soviet archaeologists recorded carnelian beads in Central Tian Shan and in the Pamirs, with beads dating from about the 5th century to 2nd century BC (Bernshtam 1952). This

corresponds to phase 1 at Tuzusai. Therefore, the chronological contexts of the comparative materials found in kurgan burials and settlements (Daraut-Kurgan settlement), at the Saka burial in the Pamirs (Bernshtam 1952), and at the Xinjiang cemetery (Litvinsky 1972; Zhao 2014) are indicative of a network spanning from the Indian subcontinent through the Pamirs, across central and northern Tian Shan, and into Xinjiang.

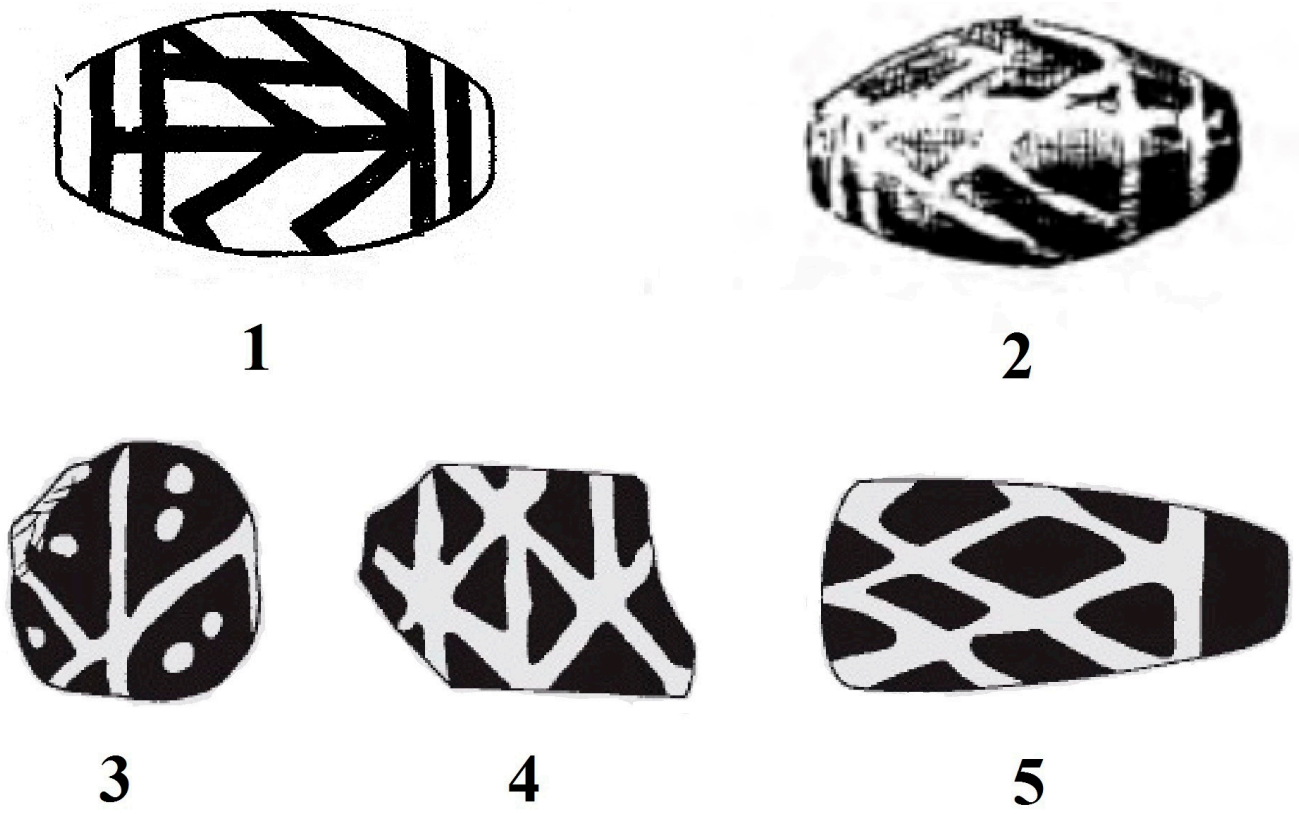

Figure 4. 1—Zharty-Gumbaz I burial ground, Pamir; 2—Daraut-Kurgan settlement, Alai; 3–5—Khotan area, Xinjiang (1—after B. A. Litvinsky (1972); 2—after A. N. Bernshtam (1952); 3 and 4—after Deyun Zhao (2014)).

We leave the question as to whether the Talgar etched stone bead is a copy or a real carnelian bead to future material analysis of the stone and the etching process.

2.2. Animal-Style Bone Plaque Fragment (Figure 5)

This plaque is a fragment of a long bone with an engraved image of a wing. It appears to have the outline of an ear on the right side and the wings of a bird on the left side. Therefore, it is a mythical creature (Andreeva 2018) (see Figure 5). The Issyk Golden Warrior kurgan excavated in 1969 is only 25 km from Tuzusai, where this bone plaque was found.

Volute-shaped ornamental motifs resembling the wings of a mythical creature are clearly visible on the plaque. However, due to the fact that the plaque is not intact, the image of this creature is not entirely clear. Examples of similar wing decorations found throughout the Eurasian steppe are presented in Figure 6.

Figure 5. Animal-style bone plaque from Tuzusai.

However, the motif of the wing is quite well known in the art of the Tien Shan Saka. Based on this iconography, M. K. Seitkaliev (2014) came to the conclusion that Saka art emerged from Achaemenid art; therefore, almost all samples here date back to no earlier than the end of the 6th century BC. This can be clearly seen on a plaque from the Saka burial ground in Zhetytobe near the city of Taraz dated to between the 5th and 4th centuries BC. Moreover, the wing from the plaque at Tuzusai resembles the wings of the mythical creatures on bracelets and other items from the Oxus treasure (Seitkaliev 2014) (Figure 6(8)). Thus, there is little doubt about their ancient Iranian origin.

Almost all comparisons of winged imagery from the Tien Shan region suggest these designs as being representative of a mythical winged creature. The bone plaque fragment that depicts a mythical winged creature from the Tuura-Suu burial ground in Issyk-Kul (Figure 6(1)) is the most similar example. This bone plaque dates from between the 5th and 3rd centuries BC (Mokrinin and Garushenko 1975, p. 78, Figure 29). Additionally, a number of images from the famous Issyk mound dating back to the 4th century BC have similar wing iconography (Akishev 1978, Table 25, 1; Table 62). In addition, images of the mythical wing are found on plaques made of gold foil from the Saka burial grounds in the Ketmen-Tyube Valley in western Tien Shan, which date to between the 5th and 3rd centuries BC (Figure 6(5)).

A number of similar wing interpretations are recorded in the iconography of fantastic creatures found in the Siberian collection of Peter I (Figure 6(8,9)). All of them date to between the 6th and 3rd centuries BC and bear the influence of Achaemenid art (Rudenko 1962, pp. 17–18, Table, XI, 1,2; Table XVII). At the same time, the origin of some of these items can be directly related to Iran or the Central Asian satrapies of the Achaemenid period. However, the motif of the wing is quite widely represented in the depictions of mythical creatures in Pazyryk art, where it was also borrowed from ancient Persian art (Rudenko 1970).

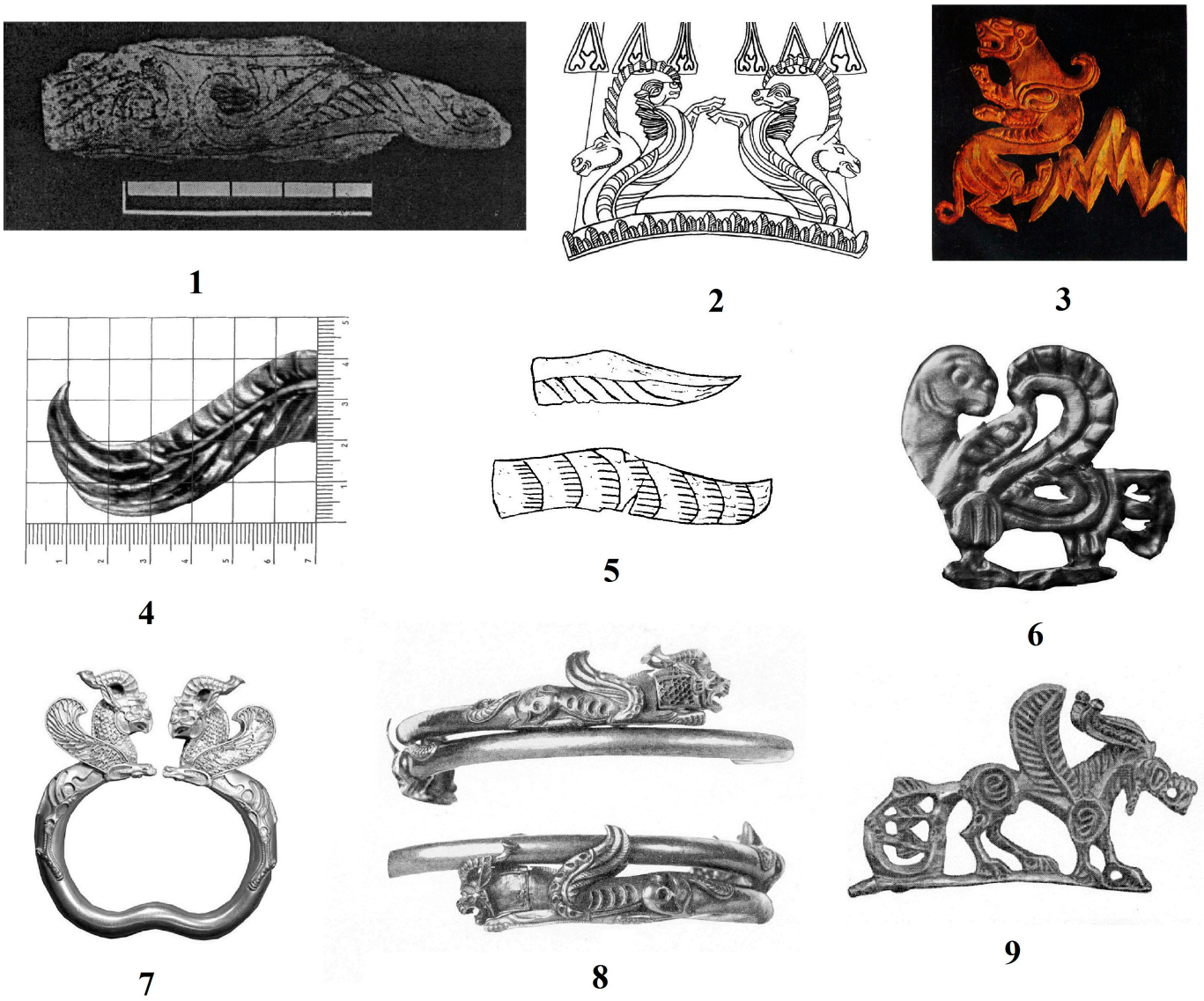

Figure 6. 1—Tuura-Suu burial ground, Issyk-Kul; 2–4—Issyk barrow; 5—Jal-Aryk burial ground, Ketmen-Tyube Valley, western Tien Shan; 6—Zhetytobe burial ground, southern Kazakhstan; 7—Oxus treasure; 8–9—Siberian collection of Peter the Great (1—after Mokrinin and Garushenko 1975; 2–4—after K. A. (Akishev 1978); 5—after K. I. Tashbaeva (2011); 6–7—after M. K. Seitkaliev (2014); 8–9—after S. I. Rudenko (1962)).

The ear motif has some similarity to the small elongated ears with internal parallel lines that are found on a carved bone spoon with motifs of griffins from the 6th to 5th centuries BC (MA AA0 74/75) (eds. Chang and Guroff 2006, p. 104). These ear motifs are comparable to those found on Sarmatian objects. In our search for parallel imagery, we note that horses, donkeys, and deer often have elongated ears, while panthers and other felines have round-shaped ears.

Thus, despite the fact that the plaque from Tuzusai is a fragment, it reflects a common motif for the art of the Saka.

2.3. Horn Cheek Pieces (Psalias) (Figure 7)

These two *psalias*, or horn cheek pieces, were found in situ lying side by side in the 2013 Tuzusai excavations right next to a post-hole from house 6.

Figure 7. Horn cheek pieces from Tuzusai.

Horn cheek pieces are considered the most archaic form of cheek pieces. Most cheek pieces, or *psalias*, are fashioned from iron or bronze (Besetayev and Kariyev 2016). Similar cheek pieces were found in Central Asia in the burial grounds of Uygarak and Tagisken in the Aral Sea region, as well at the settlements of Chust and Dalverzin in the Ferghana Valley (Shulga 2015, pp. 29–30, 40–43, 88–90, 178, Figure 15.9a; Figure 55.9). However, unlike the cheek pieces frPom Tuzusai, they have three holes. Thus, these cheek pieces are older than the Tuzusai cheek pieces.

This type of horse bridle item, as a rule, dates from between the 8th and early 6th centuries BC. In fact, later horn cheek pieces are completely unknown in ancient Central Asia. Therefore, it is noteworthy that the horn cheek pieces from Tuzusai, which appear archaic, have two holes instead of three. The evolution of the horse bridle on the Eurasian steppe undergoes a transition from the earlier three-hole cheek pieces to the later two-hole ones (Besetayev and Kariyev 2016, pp. 74–75; Bokovenko 1979). This change takes place the middle of the 6th century BC. Therefore, the cheek pieces from Tuzusai are a reflection of these stylistic differences and may actually date to between the second half of the 6th and the first half of the 5th centuries BC. Bone cheek pieces that are similar in appearance have been found from the Pazyryk culture of the Gorny Altai, with pieces dating to the pre-Bashdar period (between the second half of the 6th and the first half of the 5th centuries BC). Similar cheek pieces have been found in the Kamenskaya and Bystryanskaya cultures of the forest-steppe Altai during the same time period.

Thus, the horn cheek pieces from Tuzusai belong to between the second half of the 6th and the first half of the 5th centuries BC.

2.4. Bone Disk with Three Birds' Heads with Beaks (Figure 8)

This artifact was found at Tuzusai in 2010. It was found on the outside edge of pit house 6 in the southernmost baulk wall of the Tuzusai excavation unit. The bone disk was probably used as a decorative piece for weaponry. The birds' heads are indeed schematic and not entirely obvious, except for the fact that the field archaeologists noted in field notes

that each head had a small perforation in the larger part of the shape that appeared to be the eye of each bird.

Figure 8. Bone disk with carved bird heads, each with an eye dot in the rounded part.

This bone disk is similar in appearance to other objects made of metal and without decoration that were found in burials of the Tian Shan Saka. For example, in mound 25 at the Bes Shatyr burial ground, a similar iron disk was found, which apparently was associated with a quiver case with arrows (Akishev and Kushaev 1963, Figure 25) (see Figure 9(2)).

The chronological placement of the Tuzusai disk can be determined from the carved patterns on the front side of the disk (these appear as figures in the form of a bird or griffin in profile). Similar bird or griffin images have been found elsewhere in the Tian Shan region. For example, a similar image was found on a ritual stone table from Semirech'ye dating to between the 5th and 3rd centuries BC (Bernshtam 1952, p. 107, Table XL) (see Figure 9(3)). Similar motifs have also been employed as independent decorative elements, such as those found on the gold foil plaques discovered at the Tenelik Barrow dated to between the 3rd and 2nd centuries BC by K.A. Akishev and A.K. Akishev (Akishev and Akishev 1983, p. 157) (see Figure 9(2)).

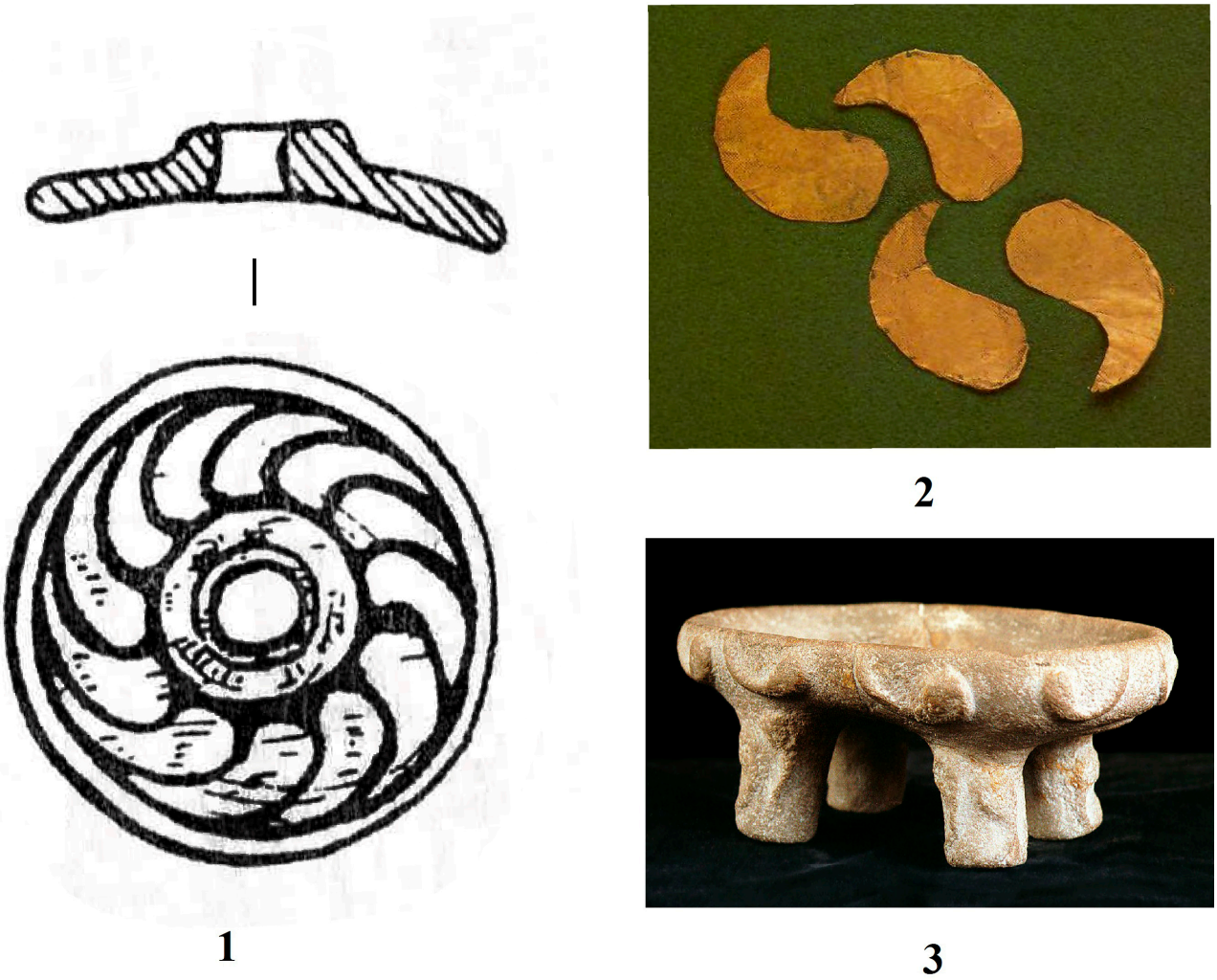

Figure 9. 1—Suglug-Khem burial ground, Tuva; 2—Tenlik barrow, southeastern Kazakhstan (Semirech'ie); 3—Chu Valley (1—after V. A. Semenov (2003); 2—after Akishev and Akishev (1983); 3—after A. N. Bernshtam (1952)).

Beyond the Tian Shan region, similar decorative objects have been found. A bone disk with carved images of the heads of birds of prey or that of a griffin was discovered at the Suglug-Khem burial ground in Tuva. However, these motifs were placed on the front surface of the disk in greater numbers (Semenov 2003). This particular disk, based on its position in the burial, was associated with the fittings of a combat belt or with the straps of a quiver with arrows. The Suglug-Khem find is dated to between the 4th and 2nd centuries BC.

Therefore, the Tuzusai bone disk, according to these comparisons, probably dates to the between 4th and 2nd centuries BC.

In summary, we suggest that this ornamental piece was part of a belt, a quiver, or other dress element. It could have been associated with warriors or with bow and arrow equipment typical of Saka culture between the 5th and 2nd centuries BC. Comparative material from Pazyryk culture, as well as material from Tuva and the nearby Bes Shatyr kurgans, also suggests that this ornamental bone disk expresses similar aesthetic imagery to that of the greater Scytho–Saka–Siberian complex (Siberia, Tuva, and the northern Tian Shan region). Thus, we consider the larger question concerning why pan-regional aesthetic traditions such as zoomorphic imagery and ornamentation on belts and fastenings were widespread throughout the nomadic world of the first millennia. Was this simply a factor

of an artistic horizon, or was it more specifically related to the broad economic and political interactions of steppe culture and tradition in this important period?

2.5. Bronze Wheel (Figure 9)

The bronze wheel was discovered in the bottom of a large ditch found at Taldy Bulak 2, an Iron Age settlement about 5.5 km to the southeast of the Tuzusai settlement. This bronze wheel was unfinished; of the eight perforations surrounding the central hole, only three were completely perforated.

Figure 10 shows the bronze wheel found at Taldy Bulak in the bottom of an ancient ditch. This bronze wheel has rays or spokes radiating from the center hole. Such a find is extraordinary for the Tian Shan region. Until this discovery at Taldy Bulak 2, these artifact types were identified as chance finds, often with varied explanations for their purpose and chronological placement. The discovery of this artifact at the Taldy Bulak 2 settlement clarifies some of the questions surrounding the cultural affiliation and chronological placement of bronze wheels.

Figure 10. Bronze wheel from Taldy Bulak 2.

Figure 11 shows comparable bronze wheels from other regions of the Eurasian steppe. From the Saka territory of the Tian Shan, a similar wheel was discovered in the Ketmen-Tyube Valley in western Tian Shan (Figure 11(1)). This find has been dated to between the 5th and 3rd centuries BC (Tashbaeva 2011, p. 73, Figure 70, 3).

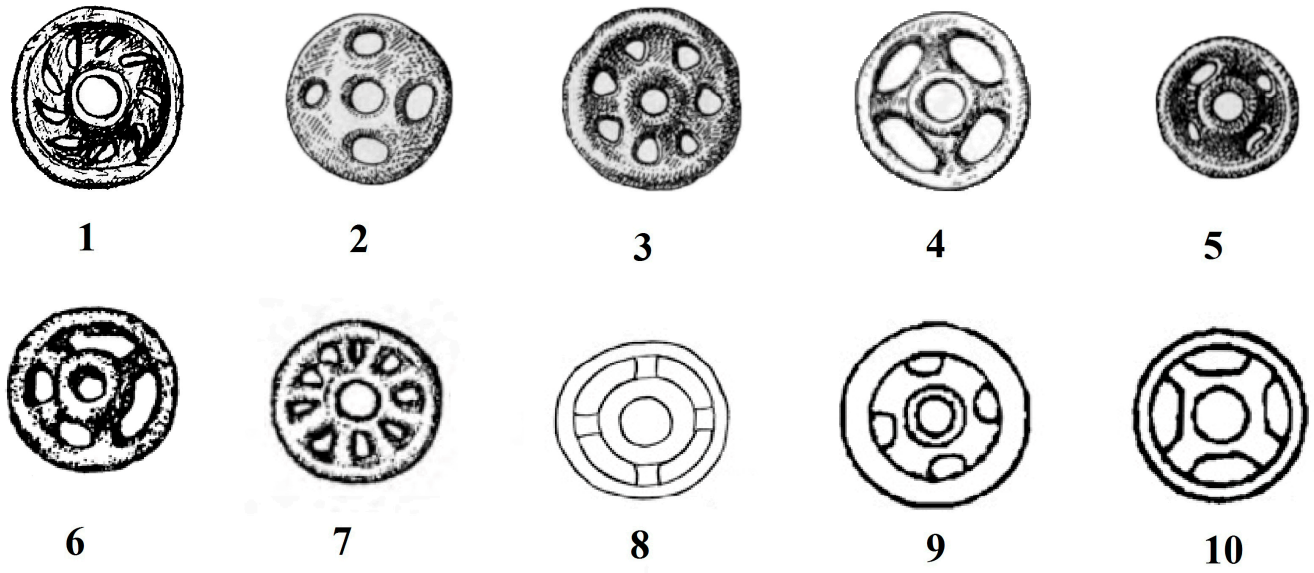

Figure 11. Bronze wheel. 1—Jal-Aryk burial ground, Ketmen-Tyube Valley, western Tien Shan; 2–5—Sauromat culture, South Urals; 6–7—Kamenskaya culture, forest-steppe Altai; 8–10—northern Xinxiang (1—after K. I. Tashbaeva (2011); 2–5—after K. F. Smirnov (1964); 6—after V. A. Mogilnikov (1997); 7—Umansky et al. (2005); Figure 10(8–10)—after P. I. Shulga (2010)).

Bronze wheels with a radial pattern are quite well known in other cultural areas of the early Iron Age in the Eurasian steppe zone. Such finds have been identified in the Sauromatian culture of the southern Urals (Figure 11(2–5)). KF. Smirnov (1964, p. 64) dated these finds to between the 6th and 4th centuries BC and classified them as solar amulets. He suggested that they were associated with quivers from that time period and were used to protect their owners (Smirnov 1964, p. 64, Figure 71(Smirnov)).

In addition to these bronze wheels, wheels such as the Taldy Bulak wheel were also discovered from the Kamenskaya culture of the forest-steppe Altai [Figure 11(6)]. Mogilnikov (1997, p. 87, Figure 35a (Mogilnikov)) also identified them as amulets. It is noteworthy that, in one example (Figure 11(7)), a bronze wheel was found on a stone altar at a burial site (Umansky et al. 2005, p. 26, Figure 52(Umansky et al.)). The bronze wheel found inside the stone altar is presented in Figure 12. This also corroborates interpretations suggesting the sacred nature of these objects. For Kamenskaya culture, these bronze wheels date to between the 5th and 3rd centuries BC.

It is also important to focus on the bronze wheels found in funerary monuments in the northern part of Xinjiang [Figure 11(8–10)]. These artifacts date to the 6th century BC. It is also worth noting that P. I. Shulga believes that these artifacts are spindle whorls (Shulga 2010, Figure 81(Shulga)) (Figure 11(8–10)); however, this seems far-fetched since the bronze wheels are light in weight and small in size for spindle whorls. Yet, the possible use of such artifacts for spinning fine fabrics such as silk should not be ruled out.

This bronze wheel was found at the bottom of a long narrow ditch separating the storage areas from the two pit houses at the settlement of Taldy Bulak 2 and dates back to the earliest cultural levels. Its stratigraphic position corresponds roughly to the time periods suggested for the bronze wheels found elsewhere. The bronze wheel could have possible connections to solar imagery and may have been associated with the protection of warriors. Other bronze wheels have been found along with quivers or as part of ritual practices (e.g., on a stone altar) (Umansky et al. 2005).

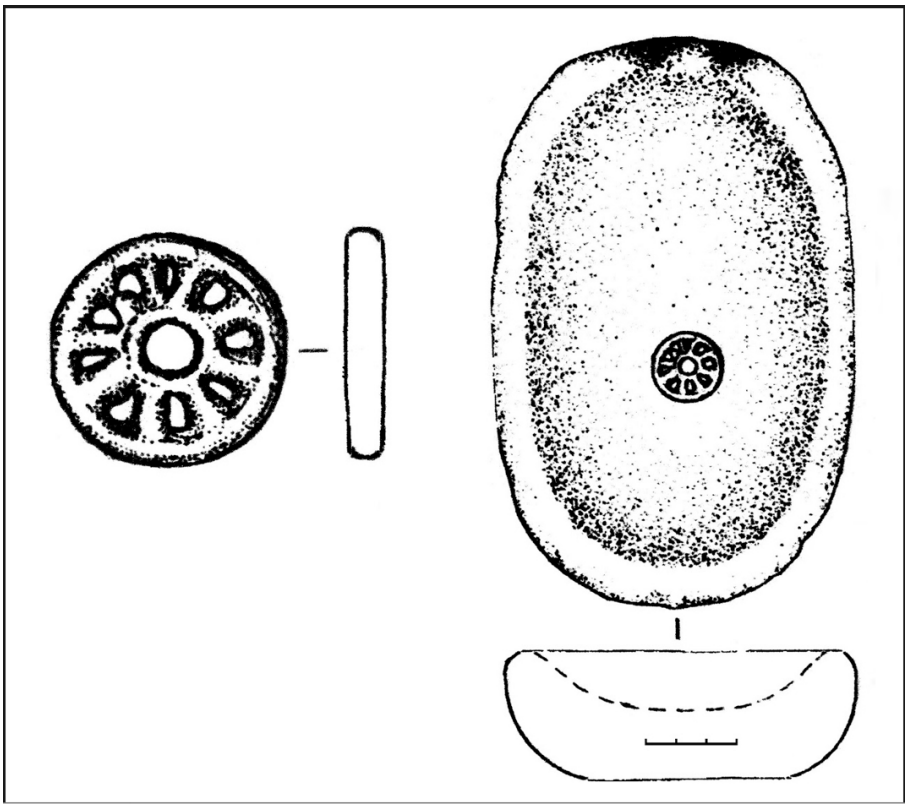

Figure 12. A bronze wheel found inside a stone altar (Umansky et al. 2005; pp. 8–10—after P.I. Shulga 2010).

3. Discussion

In summary, these six items found on the occupational surfaces of pit houses, houses, or in a ditch at the Tuzusai and Taldy Bulak settlements of Talgar are part of a pan-regional nomadic culture that was not restricted to grave or burial contexts. In our opinion, this indicates that "animal-style objects" and such visual imagery were also part of the lives of ordinary folk, not just the aristocratic elite. Additionally, the presence of a copy of a carnelian bead, potentially an original bead, is indicative of long-distance trade and interactions between South Asia, Central Asia, and the steppe regions of Eurasia. We consider the Talgar settlements of the middle to late Saka period to be part of these commodity trade routes. From a methodological standpoint, the careful work conducted by S. Ivanov involving the use of comparative analogies to establish similarities between our special finds and the broader corpus of Scytho–Saka–Siberian material of the first millennia shows an exceptional congruence between radiometric dating from our stratigraphic sequences and the method of comparative analogy often employed by Soviet and post-Soviet archaeologists. This is indeed heartening news for art historians who also work with chronological collections of objects, visual imagery, and artistic style horizons through comparisons across the Eurasian region (Andreeva 2018).

This style not only represented a repertoire of shared iconography, but was also functional. The style was associated with commodity production, trade practices, and socio-economic functions for the nomadic Saka living in the Talgar region. The Saka, who practiced both agriculture and animal herding and were sedentary or semi-sedentary, engaged in a broader cultural tradition that included zoomorphic imagery, horse riding (the *psalia*), and an attention to items associated with costume decoration and warrior cults. Additionally, we argue that zoomorphic "animal-style" artistic traditions can be used to discuss the interaction spheres between core states and periphery areas (Beaujard 2010). There is no doubt that Talgar was a periphery area on the edge of the northern Tian Shan mountains, which, though near to the Issyk cemetery, was distant from the centers of the

Achaemenid Empire, the Greco–Bactrian Kingdoms, and later the Chinese Chou and Han dynasties. Talgar was an integral part of the nomadic Saka cultural tradition. In the future, we hope to explore these spheres of interaction between core states and outlying peripheral nomadic confederacies and states.

4. Materials and Methods

Chronological Sequences

All these artifacts, except the animal-style bone plaque, fall within a middle to late Saka context (500–200 BC). The bone plaque was found in Tuzusai at stratum 3—a transitional occupational level between the upper and lower levels. Here, we consider chronological placement through stratigraphy and site depositional factors such as pit fill, edges, or outside of house features. The chronological placement of the objects is then examined in relation to artifact finds from other regions to provide a separate line of evidence for the chronological dating of the objects. These chronological arrangements can be found in Table 2. None of these artifacts, in and of themselves, have been radiometrically dated, nor have the occupational surfaces where they were situated been dated, except through stratigraphic associations. Despite this, our ability to place these objects within the larger context of archaeological excavations conducted at two Iron Age sites makes this information extremely valuable for others desiring to draw comparisons with our material.

Table 2. Archaeological context, phase dating, and chronological placement according to comparative analogies in the Tian Shan region and regions with close proximity.

Artifact from Talgar	Archaeological Context	Approximate Dates According to Phase Designations (Chang 2018, p. 34)	Chronological Placement: Similar Artifacts Found in the Tian Shan Region
Etched stone bead	Tuzusai 2008 House 4, phase 1	400–300 BC	Figure 4, No. 3—Zharty-Gumbaz burial ground: 500–200 BC No. 2—Daraut-Kurgan settlement, Alai: 300–100 BC
Bone plaque with wing decoration	Tuzusai 2011 Pit house 2 B, upper floor level	400–300 BC 100–1 BC	Figure 6. No. 1—Tuura-Suu burial ground: 500–200 BC No. 2—Isyyk burial: 400–300 BC No. 5—Jal-Aryk burial ground, Ketmen-Tyube Valley, western Tian Shan: 500–200 BC
Two horn cheek pieces	Tuzusai 2013 House 6, post-hole	400–300 BC	Pazyryk culture, pre-Bashdar period: 550–450 BC
Bone disk	Tuzusai 2010 Pit house 6	400–300 BC	Plate 3 No. 2—Tenlik barrow, southeastern Kazakhstan: 300–100 BC No. 3—Chu Valley 500–200 BC
Bronze wheel	Taldy Bulak 2 2005 Ditch, early occupation	400–350 BC	Plate 4 No. 1—Jal-Aryk burial ground, Ketmen-Tyube Valley, western Tian Shan: 500–200 BC No. 8–10—northern Xingiang: 600–500 BC

Table 2 shows the phase designation for each Talgar artifact find according to its stratigraphic placement at the settlements and the chronological placement of similar objects found in the Tian Shan region or those found in close proximity. The phase designations are based on radiometric dating of the archaeological materials found at Tuzusai and Taldy Bulak 2 (Chang 2018, p. 34). Archaeological finds are often found in mixed deposits; therefore, these phase designations may not always correspond to the materials found in burial grounds from the Tian Shan region. Table 2 shows that most of the Saka finds date to the classic to late Saka period, with the exception of the horn cheek pieces that appear to date back to as early as the second half of the 6th century BC. Field archaeologists have often believed that there are earlier deposits at Tuzusai, but such deposits have yet to be dated radiometrically. Additionally, there appears to be one further anomaly, that of the bone plaque with a wing decoration. This bone plaque was found in stratum 3, which is a possible transitional layer between phase 1 and phase 2 at Tuzusai; however, all similar objects found in the Tian Shan region are associated with the earlier period between 500 BC and 300 BC.

Typology and chronological placements are often fraught with inconsistencies, though both the artifact comparisons and relative dating of archaeological contexts (stratigraphy) show a consistent time frame for the Talgar settlements (occupation periods between the classic to late Saka period). This is also a time period when the influence of zoomorphic art, such as that expressed in the bone plaque with a wing decoration and the bone disk with possible birds' heads, was discovered at occupational levels at Tuzusai. These significant examples of zoomorphic art are also direct evidence of the importance of this form of art aesthetic for objects found in settlements, as well as those found at burial sites and mortuary monuments. From these two artifacts, we conclude that Eurasian zoomorphic art is part of both burial and settlement inventories in Saka culture. As pointed out earlier, the horn cheek pieces have no direct comparative examples from the Tian Shan area but are very similar to finds from the distant region of the Pazyryk culture of the Gorny Altai. In a recent paper, Ivanov (2022) traced the direct relationship between the Pazyryk and Kamenskaya cultures and the Saka of the Tian Shan region to the period between 400 and 200 BC. This analysis was based on physical anthropological materials and aDNA samples from burials. According to Ivanov (2022), there have been deep genetic and cultural ties between the Saka and Kamenskaya cultures in the western flanks of the Altai region. It is likely that such connections existed between the pre-Bashdar Pazyrk (in the 6th century BC) and Semirech'ye (the northern Tian Shan). The Tuzusai horn cheek pieces may in fact represent this earlier connection between Pazyryk culture and the Tian Shan Saka.

In Soviet and post-Soviet methodology, objects from graves, kurgans, and other contexts are often placed in chronological frameworks based on descriptive traits (Trigger 2006; Paberzyte and Costopoulos 2009) and dated according to the typological and descriptive characteristics of objects such as metal arrowheads, bridle parts, zoomorphic plaques, and other artifacts. This method of seeking comparisons to other artifacts requires researchers to have vast knowledge and access to descriptions of material items from the Soviet and post-Soviet periods, which are mainly found in Russian language publications. Here, we have retained the original bibliographic references of the Russian language sources so other researchers can more easily trace this source material. In the References section, the Russian publications have been transliterated and translated into English. We have used the method of descriptive analogy to examine the six objects found at the Talgar settlements.

5. Conclusions

The zoomorphic imagery found on the bone disk and the bone plaque from the Tuzusai settlement is indicative of the quotidian nature of an aesthetic style often presumed to be associated with elite burials. Additionally, the congruence of comparative analogies with other finds that range from the classic Scytho–Saka–Siberian period to its later phase is of considerable importance. By the 5th century BC, animal-style art reached its zenith, and had also penetrated into peripheral locations such as the Talgar settlements. A pan-regional

art horizon such as this suggests that there was a visual repertoire, perhaps tied to shamanic or other cultic beliefs, that held the imagination of both settled and nomadic peoples of the first millennia BC. From an economic and sociopolitical viewpoint, we can also see that these widespread influences were part of commodity trade and defined the impact of steppe polities in the globalized world-economy of the Eurasian Iron Age. In future research, we hope that these six special finds will be part of a literature that ties costume elements, weaponry, and dwelling areas to an aesthetic tradition, as well as to the networks and pathways of nomadic politics and trade.

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